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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,557	06/04/2001	Amaresh Pangal	884.400US1	7574

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SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402-0938

EXAMINER

DO, CHAT C

ART UNIT PAPER NUMBER

2193

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/873,557

Applicant(s)

PANGAL ET AL.

Examiner

Chat C. Do

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2005 and 10 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-7, 15, 27 and 28 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 8, 9, 11, 12, 16-19 and 21-26 is/are rejected.
- 7) ☒ Claim(s) 10, 13, 14, 20 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This communication is responsive to Amendment filed 08/10/2005 and 08/16/2005.
2. Claims 1-29 are pending in this application. Claims 1, 3-4, 6, 9, 11, 15, 18, and 21-22 are independent claims. In Amendment, claims 9, 18 are amended and claims 27-29 are added.

This Office Action is made final.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Wyland et al. (U.S. 6,205,462).

Re claim 1, Wyland et al. disclose in Figure 2 an integrated circuit comprising: a multiplier (e.g. 142) to produce a product from two floating point multiplicands (e.g. 102 and 104 wherein both are floating-points and col. 1 lines 59-63) having a first exponent weight; a floating point conversion unit (e.g. 140 and 144) to convert the product (e.g. output of 142) from the first exponent weight to a converted produce with a second exponent weight; an adder (e.g. 148) to produce a present sum from the converted product (e.g. output of 144) and a previous sum (e.g. output of 152 as 154) having the

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second exponent weight; and a post-normalization unit (e.g. 156) to convert the present sum to a floating point resultant having the first exponent weight.

Re claim 2, Wyland et al. further disclose in Figure 2 the multiplier is configured to produce a product with an exponent weight of one (e.g. Figure 2 wherein the exponent is in binary form or base 2).

Re claim 8, Wyland et al. further disclose in Figure 2 the post-normalization unit (e.g. 156 inherently) is configured to be turned off while the adder is producing the present sum.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 9, 11-12, 16-19, and 21-26 are rejected under the judicially created doctrine of double patenting over claims 4-5 and 13-18 respectively of U. S. Patent No. 6,779,013 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

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The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows:

Re claim 9, it is a broader claim of claim 4 as cited in the U.S. Patent No. 6,779,013. The only limitation difference between two set of claim is "the mantissa accumulator including an overflow detection circuit responsive to two most significant bits of a sum field output from the mantissa accumulator" as cited in the claim 1.

Re claim 18, it is a broader claim of claim 13 as cited in the U.S. Patent No. 6,779,013. The only limitation difference between two set of claim is "the detecting overflow as a function of two most significant bits of a sum field of an accumulated product; and post-normalizing the accumulated product" as cited in claim 11.

In general for all other claims 11, 12, 16, 17, 19, 21, 22, 23, 24, 25, and 26 have limitations that are very similar to claims 4, 5, 4, 4, 13, 13, 14, 15, 16, 17, and 18 respectively of U.S. Patent No. 6,779,013.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Allowable Subject Matter

7. Claims 3-7, 15, and 27-28 are allowed.

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8. Claims 10, 13-14, 20, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed 08/10/2005 and 08/16/2005 have been fully considered but they are not persuasive.

a. The applicant argues in page for independent claim 1 generally that the cited reference by Wyland et al. (U.S. 6,205,462) fail to disclose the conversion unit for converting the product from the first exponent weight to a converted product with a second exponent weight as seen in the claimed invention.

The examiner respectfully submits that the reference by Wyland et al. disclose in column 2 lines 15-23 that the shifter is used to shift the resultant product of multiplication into a pre-defined format according to the resultant sum of the addition generated by the exponent adder circuit which clearly means of converting one format to another format including the exponent (e.g. column 1 line 59 – column 2 line 23).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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- b. U.S. Patent No. 6,779,013 to Pangal discloses a floating-point overflow and sign detection.
- c. U.S. Patent No. 6,571,266 to Bass discloses a method for acquiring FMAC rounding parameters.
- d. U.S. Patent No. 5,185,713 to Kobunaya discloses a product adder for performing multiplication of floating-point data and addition of fixed-point data.

11. This is a continuation of applicant's earlier Application No. 09/873,557. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do
Examiner
Art Unit 2193

September 14, 2005



KAKALI CHAKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100